We claim:

1. A vector capable of expressing an α-1,2-mannosidase or a functional part thereof in a methylotrophic yeast strain, comprising a nucleotide sequence coding for said α-1,2-mannosidase or said functional part.

2. The vector of claim 1, wherein said α-1,2-mannosidase is a protein from a fungal species.

3. The vector of claim 2, wherein said fungus is *Trichoderma reesei*.

4. The vector of claim 1, wherein said α-1,2-mannosidase is a protein from a mammalian species.

5. The vector of claim 4, wherein said α-1,2-mannosidase is murine α-1,2-mannosidase IA or IB.

6. The vector of claim 1, wherein said α-1,2-mannosidase or said functional part is tagged with an ER-retention signal.

7. The vector of claim 6, wherein said ER-retention signal comprises peptide HDEL.

8. The vector of claim 1, wherein the nucleotide sequence coding for said α-1,2-mannosidase or said functional part is operably linked to a promoter and a 3' termination sequence.

9. The vector of claim 8, wherein said promoter is the promoter of a gene selected from the group consisting of AOXI, AOXII, GAP, and FLD.

10. A vector selected from the group consisting of pGAPZMFManHDEL, pGAPZMFManMycHDEL, pPICZBMFManMycHDEL, pGAPZmManHDEL, pGAPZmMycManHDEL, pPIC9mMycManHDEL and pGAPZmMycManHDEL.

11. A vector capable of expressing a glucosidase II or a functional part thereof in a methylotrophic yeast strain, comprising a nucleotide sequence coding for said glucosidase II or said functional part.

12. The vector of claim 11, wherein said glucosidase II is a protein from a fungal species.

13. The vector of claim 12, wherein said fungus is *Saccharomyces cerevisiae.*

14. The vector of claim 11, wherein said glucosidase II is a protein from a mammalian species.

15. The vector of claim 11, wherein said glucosidase II or said functional part is tagged with an ER-retention signal.

16. The vector of claim 15, wherein said ER-retention signal comprises peptide HDEL.

17. The vector of claim 11, wherein the nucleotide sequence coding for said α-1,2-mannosidase or said functional part is operably linked to a promoter and a 3' termination sequence.

18. The vector of claim 17, wherein said promoter is the promoter of a gene selected from the group consisting of AOXI, AOXII, GAP, and FLD.

19. A vector having the designation pGAPZAGLSII, pPICZAGLSII, pAOX2ZAGLSII, pYPTIZAGLSII, pGAPADEglsII, pPICADEglsII, pAOX2ADEglsII, pYPTIADEglsII, pGAPZAglsIIHDEL and pGAPADEglsIIHDEL.

20. A vector for disrupting the Och1 gene in a methylotrophic yeast strain, comprising a portion of the Och1 gene and a selectable marker gene, wherein said portion of the Och1 gene and said selectable marker gene are linked in such a way to effect the disruption of the genomic Och1 gene in said methylotrophic yeast strain.

21. A vector having the designation pBLURA5'PpOCH1.

22. A method of reducing the glycosylation on proteins produced from a methylotrophic yeast, comprising transforming said yeast with any one of the vectors of claims 1-21.

23. The method of claim 22, wherein said yeast is *Pichia pastoris*.

24. The method of claim 23, wherein said yeast is a *Pichia pastoris* strain selected from GS115 (NRRL Y-15851), GS190 (NRRL Y-18014), PPF1 (NRRL Y-18017), PPY12-OH, yGC4, or derivatives thereof.

25. The method of claim 22, 23 or 24, wherein said yeast has been genetically engineered to expresses a heterologous protein.

26. A genetically engineered strain of a methylotrophic yeast, wherein said strain is transformed with at least one of the vectors of claims 1-21.

27. A method of reducing the glycosylation of a heterologous glycoprotein expressed from a methylotrophic yeast, comprising transforming cells of said methylotrophic yeast with at least one of the vectors of claims 1-21, and producing said glycoprotein from the transformed cells.

28. A method of producing a glycoprotein with reduced glycosylation in a methylotrophic yeast, comprising transforming cells of said methylotrophic yeast with at least one of the vectors of claims 1-21 and with a nucleotide sequence capable of expressing said glycoprotein in said yeast, and producing said glycoprotein from the transformed cells.

29. A glycoprotein produced by the method of claim 27 or 28.

30. The glycoprotein of claim 29, wherein said glycoprotein has a reduced immunogenicity as relative to the glycoprotein produced from a wild type strain of said methylotrophic yeast.

31. The glycoprotein of claim 29, wherein said glycoprotein is suitable for use in human therapeutics.

32. A kit comprising any of the vectors of claims 1-21.

33. The kit of claim 32, further comprising a methylotrophic yeast strain.

34. A kit comprising the methylotrophic yeast strain of claim 26.